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Chronic Urogenital Pain in Men

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SUMMARY POINTS

- Current terminology uses the 2008 European Association of Urology guidelines, but variably used historical terms suggest inflammation or infection that is rarely found.
- Central sensitisation is important in causing visceral and muscle hyperalgesia throughout the pelvis.
- There can be considerable overlap between urogenital pain conditions.
- Men who have a chronic urological pain condition often have a disturbance of urinary, bowel and sexual function.
- Working with urologists as well as a multidisciplinary team is essential.

Introduction

Urogenital pain encompasses pain arising or perceived to be arising from the urological and sex organs and pelvic pain would also include bowel. Men with urogenital pain commonly have irritable bowel syndrome (IBS) and frequency of urination. As for terminology, diagnoses that imply an inflammatory or infective process, such as chronic prostatitis, have led to much confusion. The European Association of Urology classification is used in this article[1]. Patients and clinicians alike find pelvic pain difficult to describe and evaluate, and the symptoms are variable because of the close association of the pelvic viscera and how neuroplasticity affects them. Treatment principles are similar to those for other chronic pain conditions however.

Chronic Pain Mechanisms in the Pelvis

Primary afferents from pelvic organs are unmyelinated C fibres, Aδ and a few Aβ. Nociceptors in viscera are most likely to be non-specific, for example bladder fullness, a normal sensation is only perceived as painful once a certain threshold is reached. In chronic pain this threshold may be at a lower volume. Normally silent afferents can become sensitised after a trigger such as infection, and thus contribute to central sensitisation.

Pelvic organs' afferent innervations converge at spinal segments with neurones from somatic structures such as the skin and muscles of the back and buttocks, abdomen, thighs and perineum. Thus there is a huge potential for referred pain, secondary muscular and viscero-visceral hyperalgesia. Because of this 'cross talk' one usually sees disturbance of other pelvic viscera - for example bladder sensitivity accompanied by muscle hyperalgesia in a patient with prostate pain syndrome.

So what one commonly sees in clinical practice is a model of neuropathic pain, accompanied by pelvic floor muscle spasm, secondary disuse because of pain and a variable degree of 'spreading' of the disturbance through the pelvis.

Chronic Pain Syndromes

This article describes organ-related pain syndromes, not because it is more helpful to think of pain as 'organocentric', but because most patients will have seen a urologist and been given a 'diagnosis' of 'prostatitis' or 'interstitial cystitis' for example and had a range of treatments directed at an organ. Chronic pain treatment is directed at the central sensitisation, muscle hyperalgesia, and at increasing function.

Bladder Pain Syndrome (BPS)

This is also known as Painful Bladder Syndrome (PBS) and Interstitial Cystitis (IC). Typically pain in the suprapubic region intensifies as bladder volume increases and patients need to void frequently, which is also painful. Many patients will have tried reducing fluid intake to reduce pain associated with bladder filling, but concentrating the urine increases the risk of bladder irritation, so most do not continue this. It is widely felt that spicy or acid drinks like coffee, wine and orange juice worsen symptoms and most patients avoid these. If symptoms of frequency and urge predominate bladder training can be helpful.

Oral and intravesical sodium pentosanpolysulfate (PPS) has been tested in double-blind, placebo-controlled studies and found to be beneficial[2].

Other treatments which may have been tried by urology colleagues include histamine antagonists such as hydroxyzine, bioflavinoids and immunosuppressive agents or bladder hydrodistension and installation of intravesical local anaesthetic, dimethyl sulphoxide (DMSO), heparin, methylprednisolne, hyaluronic acid, and resiniferatoxin (a potent analogue of capsaicin). Most have disappointing long term results and potential side effects are great.

Prostate Pain Syndrome

Acute and chronic bacterial (usually Escherichia coli) infections are usually treated in a urological setting with antibiotics. Chronic nonbacterial 'prostatitis' is the commonest reason for prostate pain however, estimated to be eight times more frequent than the chronic bacterial type[3]. Diagnostic difficulty arises because positive cultures are rare apart from in acute prostatitis, and symptoms of burning and pain will be reduced by ciprofloxacin (as this is actually an analgesic), thus reinforcing the idea that an infection has been treated. Other urological treatments include 5 alpha reductase inhibitors which reduce the size of the glandular component of the gland (the primary focus of an inflammation), pentosan which potentially has effects on mast cell release, metartricin, an oestrogen reuptake inhibitor, and bioflavonoids.

Urethral and Penile Pain Syndromes

Typically pain and dysuria appear during and/or immediately following voiding, but not before emptying of the bladder, and pain is present on urethral palpation. This is the only way of distinguishing urethral from BPS as in men bladder pain often refers to the urethral glans. Pain experienced in the penis is often referred from the bladder outlet and somatic structures (and in this case usually involves the testes too).

Scrotal Pain Syndromes

The scrotum is innervated by a complex and highly variable number of nerves including the perineal and genital branches of the genitofemoral, iliohypogastric, ilioinguinal and perineal branches of the pudendal. Pain is commonly referred to the scrotum from the kidney, ureter, hip, intervertebral discs, inguinal ligament and hernias. Many patients attribute the start of their pain to an injury and the ongoing nature can be explained by neuroplasticity. However for many men there is no antecedent event.

Epididymal cysts can be of infective or traumatic origin, but the majority are of unknown aetiology. Where compression reproduces pain, fluid removal may be helpful. Varicocele is a cause of pain in 2 to 14% of men suffering chronic scrotal pain and can respond to surgery but not always[4].

Post vasectomy pain syndrome

It is unclear if post vasectomy spermatic granulomas are important in pain. Some authors suggest that obstruction or congestion in the vas or epididymis is the cause, as pain during ejaculation is often a symptom, and there are reports of improvement after vasovasostomy or vasoepididymostomy[5]. Most pain physicians will treat like a post-surgical chronic pain.

Renal disease and pain

Any patient who has suffered renal colic from a calculus in the upper renal tract will have hyperalgesia in the ipsilateral L1 skin, subcutaneous tissue and particularly muscle in the pain-free interval[6]. Muscle hyperalgesia persists in 90% of patients who have suffered renal colic for many years[7]. Thus a past history of kidney stones is significant. Muscle hyperalgesia may respond to local anaesthetic injection.

Pudendal Neuralgia (PN)

Four out of ten cases of this under recognised condition occur in men and the clinical history is suggestive[8]. Pain usually arises insidiously, sometimes preceded by a period of paraesthesia, although up to a third of patients will recall a precise event such as surgery or a fall. Prolonged sitting is the most common predisposition but cycling is the classical antecedent. Pain is experienced in the perineum from the anus to the penis but may radiate to the scrotum, can be uni- or bilateral, and is

AXIS I Region		Axis II System	Axis III End organ as pain syndrome as identified from Hx, Ex and Ix		Axis IV Referral characteristics	Axis V Temporal Characteristics	Axis VI Character	VII Associated symptoms	VIII Psychological symptoms
Chronic Pelvic Pain	Pelvic Pain Syndrome	Urological	Bladder Pain Syndrome	(ESSIC classification)	. suprapubic . inguinal . urethral . penile/clitoral . perineal . rectal . back . buttocks	ONSET . Acute . Chronic ONGOING . Sporadic . Cyclical . Continuous TIME . Filling . Emptying . Immediate post . Late post PROVOKED	Aching Burning Stabbing Electric Other	URINARY Frequency Nocturia Hesitance Poor flow Pis en deux Urge Urgency Incontinence Other GYNAECOLOGICAL e.g Menstrual SEXUAL e.g. Female dyspareunia Impotence Anorectal Incontinence Constipation MUSCULAR Hyperalgesia Dysfunction CUTANEOUS Allodynia	Cognitive Behavioural Emotional
			Urethral pain Syndrome						
			Prostate Pain Syndrome	Type A inflammatory					
				Type B non-inflammatory					
			Scrotal Pain Syndrome	Testicular Pain Syndrome					
				Epididimal Pain Syndrome					
				Post Vasectomy Pain Syndrome					
			Penile Pain Syndrome						
		Gynaecological	Vaginal Pain Syndrome						
			Vulvar Pain Syndrome	Generalised Vulvar Pain Syndrome					
				Localised Vulvar Pain Syndrome	Vestibular Pain Syndrome				
					Clitoral Pain Syndrome				
			Other	e.g. Endometriosis Associated Pain Syndrome					
		Anorectal	Anorectal pain syndrome						
		Neurological	e.g. Pudendal Pain Syndrome						
		Muscular	Pelvic Floor Muscle Pain Syndrome						
	Non Pelvic Pain Syndromes	e.g. Neurological	e.g. Pudendal Neuralgia						
		e.g. Urological							

Table 1 The division of Chronic Pelvic Pain into Pelvic Pain Syndromes and Non Pelvic Pain Syndromes [10]

of a neuropathic nature. Common symptoms include the feeling of sitting on of a mass, intolerance to light touch and/or to underwear and to sitting, unless on the toilet seat. Relief usually comes from lying down. Reproduction of the pain is usually demonstrated on palpation around the ischial spine on rectal examination. Muscular trigger points in the anal sphincter, levator ani, obturator internus and piriformis are common and PN can be secondary to pelvic floor muscle dysfunction, whereby the nerve is irritated by spasm.

Management

The Multidisciplinary Team (MDT)

Like any other chronic pain condition, urogenital pain in the male should be seen in a biopsychosocial model of care which has been shown to improve functional outcome.

Medical consultation and therapy

A good consultation will enquire about urological, bowel and sexual function, introduce concepts of chronic pain mechanisms in the pelvis, resolve unwarranted fears about sinister disease and pain equating with damage, and orientate the patient towards more realistic goals of pain management with return of function. Examination should include the lower back, abdomen, conjoint and adductor tendons and piriformis stretch. Rectal examination can reveal muscular trigger points in obturator internus, puborectalis and the sphincters and symptoms may be reproduced on palpation of these or on pressure on the prostate or around the ischial spines (pudendal nerve territory). The main benefit of ultrasound of a painful testicle or testicular lump is to reassure the patient who is concerned about cancer. Other investigations such as urodynamics will usually have been assessed by the referrer, but an MRI scan is occasionally required to exclude lumbar or pelvic pathology.

The European Association of Urology has guidelines on evidenced based treatments for the urogenital pain conditions[1]. Neuropathic agents aimed at reducing the effects of the central sensitisation process are the mainstay of treatment. So amitriptyline, gabapentin, pregabalin, and lidocaine infusion, are used in the same fashion as for other pain conditions. However, if pain is related to a particular activity there is room for an as required use. For example men who experience post-ejactulatory pain can be advised to take tramadol 50 or 100mg or gabapentin 100mg thirty minutes prior to sexual activity. Whilst this approach takes away spontaneity, for most patients the increased confidence allows them to enjoy the experience, thus setting up a positive reinforcement of sexual activity. All neuropathic agents and opioids can have deleterious effects on sexual function, but again, this can be outweighed by the positive experience.

The role of nerve blocks is mainly limited to use as a diagnostic tool, the management of pain due to cancers, or to prevent or modify the evolution of a recent onset pain. There appears to be a small group of patients however who do gain long term benefit from pudendal nerve blocks. These are done via the gluteal approach under fluoroscopy with a peripheral nerve stimulator and contrast to locate the pudendal nerve near the ischial spine, or computerised tomography (CT) to approach it in Alcock's canal.

Suprapubic trancutaneous electrical nerve stimulation may be helpful in bladder pain syndrome and sacral nerve (or root) stimulation (or neuromodulation) has been approved by the National Institution of Clinical Excellence (NICE) for urge incontinence, urgency-frequency and faecal incontinence. Its role in pain management has yet to be fully appraised.

Surgery for pain alone which is aimed at removing the 'causal' organ has not been shown to be effective. The pain may in fact worsen and the patient is left without the use of the organ, and may have the distress of having 'phantom' pains. Surgery for pudendal neuralgia, aimed at releasing an entrapped nerve is done at a few centres internationally but there are no long term outcome studies on significant numbers of patients to recommend this as a first line treatment.

Myofascial treatments

Muscle tension is important in maintaining pain and may be causal in the case of primary pelvic floor dysfunction. Electromyography (EMG) assessment of symptomatic men commonly demonstrates tension at baseline (suggesting spasm) and rapid fatigue in response to exercise[9]. Treatment is aimed at restoring normal rest and function by patients learning to locate, relax and exercise pelvic floor muscles which can be aided by a biofeedback probe. Pelvic floor muscle exercises alone can worsen pain. The Stanford protocol is a related approach which uses myofascial trigger point release and paradoxical relaxation[10]. Injections of local anaesthesic into painful muscles can be beneficial and there may be a role for botulinum toxin. As in other pain conditions, physiotherapists use the principles of stretching, pacing and goal setting to challenge over and under activity cycles.

Cognitive behavioural therapy and other psychological treatments

Specific fears such as of sitting or sexual activity can be addressed by a graded exposure approach. Patients are encouraged to set small achievable goals, reintroducing the feared activity and are supported by being taught to modify any catastrophic thoughts. Any pain condition has a huge effect on patients' sex lives with the majority fearing failure to perform and that sexual activity would aggravate the pain[11]. Intervening in this negative feedback loop involves helping the patient refocus attention on somatic sensations and erotic cues. For sexual activity, it is often useful for individuals to first practise with self stimulation to increase their confidence without the anxiety of meeting the needs of a partner. Coaching in communication with partners about sexual issues and rehearsing ways to raise concerns can be very important. There is no evidence that pelvic pain in the absence of demonstrable pathology stems from negative childhood sexual experiences[12]. If negative sexual encounters are disclosed however, their contribution to current problems can be assessed and managed.

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